

UTA-SCIE_3305-600/700 Syllabus
Fall 2016

Instructor(s): Dr. Marius Pfeiffer

Office Number: No permanent office; See School of Science LS-105 for help on campus.

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Office Hours: MWF 9-11AM TTh 8:30-9:30AM

Section Information: SCIE-3305-600

Time and Place of Class Meetings: Web Delivered (Online) Course

Description of Course Content: SCIE 3305. ENVIRONMENTAL SYSTEMS. 3 Hours.

Topics include interrelationships among biotic and abiotic factors within habitats, ecosystems, and biomes and the energy flow through environmental systems. This course is designed to meet the needs of students seeking to become elementary or middle school science teachers.

This course works to satisfy two goals:

Help students develop an understanding of the physical, energetic, chemical, geological and biological processes that developed and maintain life on Earth.

Explore modifications to these processes induced by human activity which effect the distribution and security of life on Earth.

Student Learning Outcomes: STUDENT LEARNING OUTCOMES:

- 1) Students will work through the steps of the scientific method in considering questions they encounter.
- 2) Students will describe the relationships between matter and energy and the basis for ecosystem's manipulation of matter and energy.
- 3) Students will describe trophic level manipulation of matter and energy characteristic of ecosystems.
- 4) The student will describe the mechanisms of biological adaptation and evolution.
- 5) The student will describe how populations grow and how population size relates to resource availability.
- 6) The student will summarize human population growth and its impact on the biosphere.
- 7) The student will relate the variation in global climate and the dependent distribution of life associated with specific climates.
- 8) The student will characterize the ecological roles of aquatic ecological systems and their general classification and distributions.
- 9) The student will summarize the roles, consequences and solutions to human destruction of biodiversity.
- 10) The student will summarize the global state of terrestrial biodiversity.
- 11) The student will summarize the global state of aquatic biodiversity.
- 12) The student will describe global food production, its effectiveness and effects on the

biosphere.

- 13) The student will demonstrate the global water cycle and the effects of human activity on this.
- 14) The student will describe the structure of the earth, tectonic processes and the distribution of mineral resources in the earth's crust.
- 15) Students will review thermodynamics, describe the distribution, historical uses of fossil and nuclear power sources including issues of sustainability and safety.
- 16) Students will characterize renewable energy sources and describe their pros and cons.
- 17) Students will describe the chemical and biological environment humanity lives in and how that environment is changing.
- 18) Students will describe the atmosphere and the function of all gases and particles present. Students will define pollutants, their historical and predicted effects.
- 19) Students will describe climate historically, characterize present day climate change, the causes and impact of changing ozone levels at different levels in the atmosphere.
- 20) Students will identify sources, impacts and long term fates of water pollutants.
- 21) Students will characterize the global variations in hazardous waste generation and disposal.

**Required Textbooks and Other Course Materials: Textbook: 'Living in the Environment' 18th edition by Miller and Spoolman.
Available in bookstore.**

Subjects of each lesson:

Lesson

1) *Basics of matter and energy.*

2) Basic Chemistry.

3) Geology, tectonics.

4) Atmosphere, hydrosphere and climate.

5) Biogeochemical cycling.

6) Biochemical Evolution.

7) Biota, biodiversity.

8) Ecology, biomes and populations.

9) Ecosystems

10) Dynamics

11) Exploitation

12) Population dynamics

13) Agriculture

14) Energy sources

Semester Schedule

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug QUIZ-1	28-Aug
29-Aug Labor Day	30-Aug	31-Aug	1-Sep	2-Sep	3-Sep QUIZ-2	4-Sep
5-Sep	6-Sep	7-Sep	8-Sep	9-Sep HW-1	10-Sep QUIZ-3	11-Sep TEST-1
12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep QUIZ-4	18-Sep
19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep QUIZ-5	25-Sep
26-Sep	27-Sep	28-Sep	29-Sep	30-Sep HW-2	1-Oct QUIZ-6	2-Oct TEST-2
3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	8-Oct QUIZ-7	9-Oct
10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct QUIZ-8	16-Oct
17-Oct	18-Oct	19-Oct	20-Oct	21-Oct HW-3	22-Oct QUIZ-9	23-Oct TEST-3
24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct QUIZ-10	30-Oct
31-Oct	1-Nov	2-Nov	3-Nov	4-Nov	5-Nov QUIZ-11	6-Nov
7-Nov	8-Nov	9-Nov	10-Nov	11-Nov HW-4	12-Nov QUIZ-12	13-Nov TEST-4
14-Nov	15-Nov	16-Nov	17-Nov	18-Nov	19-Nov QUIZ-13	20-Nov
21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov QUIZ-14	27-Nov HW-5
28-Nov	29-Nov	30-Nov	1-Dec	2-Dec TEST- FINAL	3-Dec	4-Dec

Attendance: At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Other Requirements: If for any reason you will not be able to work on an assignment on the indicated due date (11:30pm Central Time in all cases) it is your obligation to complete it in advance of that due date.

Grading: Grading:

Your grade will be determined as follows

A. 14 Lesson quizzes plus discussion board and special problem assignments = 1/6 of course grade.

B. Four lecture examinations and a comprehensive final: 1/6 of course grade each.

C. Each exam has a homework component worth 20% of the exam grade.

D. A missed exam can be replaced by the final exam grade.

B. Grades: A = 90-100; B = 80-89; C = 70-79; D = 60-69; F = below 60.

Class notes, links and assignments will be posted on the Blackboard website. Students should form study groups in anticipation of the first exam.

Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels; see "Student Support Services," below.

Expectations for Out-of-Class Study: Beyond the time required to work on the class website each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Grade Grievances: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog. For undergraduate courses, see <http://catalog.uta.edu/academicregulations/grades/#undergraduatetext>; For student complaints, see <http://www.uta.edu/deanofstudents/student-complaints/index.php>.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a **letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.*

Title IX Policy: The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.*

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/>.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as "lecture," "seminar," or "laboratory" are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback via the SFS database is aggregated with that of other students enrolled in the course. Students' anonymity will be protected to the extent that the law allows. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: for semester-long courses, a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week

is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Student Support Services: [Required for all undergraduate courses] UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include [tutoring](#), [major-based learning centers](#), developmental education, [advising and mentoring](#), personal counseling, and [federally funded programs](#). For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

The IDEAS Center (2nd Floor of Central Library) offers **free** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

The English Writing Center (411LIBR): The Writing Center Offers free tutoring in 20-, 40-, or 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Our hours are 9 am to 8 pm Mon.-Thurs., 9 am-3 pm Fri. and Noon-6 pm Sat. and Sun. Register and make appointments online at <http://uta.mywconline.com>. Classroom Visits, workshops, and specialized services for graduate students are also available. Please see www.uta.edu/owl for detailed information on all our programs and services.

The Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours of operation. <http://library.uta.edu/academic-plaza>

Librarian to Contact: <http://www.uta.edu/library/help/subject-librarians.php>]

Course Schedule

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				HW-2	QUIZ-6	TEST-2
3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct
					QUIZ-7	
10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct
					QUIZ-8	
17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct
				HW-3	QUIZ-9	TEST-3
24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct
					QUIZ-10	
31-Oct	1-Nov	2-Nov	3-Nov	4-Nov	5-Nov	6-Nov
					QUIZ-11	
7-Nov	8-Nov	9-Nov	10-Nov	11-Nov	12-Nov	13-Nov
				HW-4	QUIZ-12	TEST-4
14-Nov	15-Nov	16-Nov	17-Nov	18-Nov	19-Nov	20-Nov
					QUIZ-13	
21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov	27-Nov
					QUIZ-14	HW-5
28-Nov	29-Nov	30-Nov	1-Dec	2-Dec	3-Dec	4-Dec
				TEST- FINAL		

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381

Faculty members should feel free to incorporate any of the following information into your course syllabus or other course materials. All library services can be found by going to the main page. For direct links, see below.

Library Home Page library.uta.edu

Resources for Students

Academic Help

Academic Plaza Consultation Services library.uta.edu/academic-plaza

Ask Us ask.uta.edu/

Library Tutorials library.uta.edu/how-to

Subject and Course Research Guides libguides.uta.edu

Subject Librarians library.uta.edu/subject-librarians

Resources

A to Z List of Library Databases libguides.uta.edu/az.php

Course Reserves pulse.uta.edu/vwebv/enterCourseReserve.do

FabLab fablab.uta.edu/

Special Collections library.uta.edu/special-collections

Study Room Reservations openroom.uta.edu/

Teaching & Learning Services for Faculty

Copyright Consultation library-sc@listserv.uta.edu

Course Research Guide Development, Andy Herzog amherzog@uta.edu or your subject librarian

Data Visualization Instruction, Peace Ossom-Williamson peace@uta.edu

Digital Humanities Instruction, Rafia Mirza rafia@uta.edu

Graduate Student Research Skills Instruction, Andy Herzog amherzog@uta.edu or your subject librarian

Project or Problem-Based Instruction, Gretchen Trkay gtrkay@uta.edu

Undergraduate Research Skills Instruction, Gretchen Trkay gtrkay@uta.edu or your subject librarian.